

First Response – Claims

1. (currently amended) A crossing control arm assembly for a bumper having an actuator in a housing that is adapted for attachment behind or to a back surface of the bumper, the crossing control arm assembly comprising a crossing arm that is attached to an actuator by a hinge bracket that includes upper and lower pivot members that have portions that are above and below the housing of the actuator respectively, the crossing arm being attached to the hinge bracket so as to be storable above or below the bumper and being moveable by the actuator to a deployed position generally perpendicular to the bumper when the housing is attached to the bumper.

2. (currently amended) ~~The crossing control arm assembly as defined in claim 1~~ A crossing control arm assembly for a bumper that is adapted for attachment behind or to a back surface of the bumper, the crossing control arm assembly comprising a crossing arm that is attached to an actuator by a hinge bracket that includes upper and lower pivot members of the actuator, the crossing arm being attached to the hinge bracket so as to be storable above or below the bumper and being moveable by the actuator to a deployed position generally perpendicular to the bumper wherein the crossing arm comprises a rod that is attached to the hinge bracket and a flap that is pivotally attached to the rod so that the flap is stored in a substantially horizontal position and deployed in a substantially vertical position.

3. (currently amended) ~~The crossing arm assembly as defined in claim 1 or claim 2~~ A crossing control arm assembly for a bumper that is adapted for attachment behind or to a back surface of the bumper, the crossing control arm assembly comprising a crossing arm that is attached to an actuator by a hinge bracket that includes upper and lower pivot members of the actuator that pivot about a pivot axis of the actuator, the crossing arm being attached to the hinge bracket so as to be storable above or below the bumper and being moveable by the actuator to a deployed position generally perpendicular to the bumper wherein the hinge bracket is U-shaped with substantially parallel, axially spaced legs attached to the upper and lower pivot members, respectively and the crossing arm is attached to a cross-over link that is

attached to one of the legs of the bracket in cantilever fashion so as to orient the crossing arm tangentially with respect to the pivot axis.

4. (currently amended) The crossing arm assembly as defined in claim 3 wherein the hinge bracket includes a generally L-shaped extension that includes a rod that pivots about ~~an~~ the pivot axis of the actuator, and that supports the cross-over link in cantilever fashion.

5. (original) The crossing arm assembly as defined in claim 3 wherein the cross-over link is an integral coplanar extension of one of the spaced legs of the bracket.

6. (original) The crossing arm assembly as defined in claim 3 in combination with a bumper wherein the actuator is located behind the bumper.

7. (currently amended) The crossing arm assembly as defined in claim 6 wherein the crossing arm comprises a rod, the cross-over link extends over the top of the bumper, and the cross-over link is being attached to an end of the rod of the crossing arm.

8. (original) The crossing arm assembly as defined in claim 7 wherein the cross-over link is at an angle with respect to the upper leg of the hinge bracket.

9. (currently amended) The crossing arm assembly as defined in claim 7 ~~or claim 8~~ wherein the crossing arm is stored in a position above the bumper and behind a front surface of the bumper and moved to a deployed position where the crossing arm extends generally perpendicular to an imaginary front plane of the bumper defined in part by the front surface of the bumper.

10. (original) The crossing arm assembly as defined in claim 9 wherein the crossing arm has a tip that is about 60 to 62 inches from the imaginary front plane in the deployed position.

11. (original) The crossing arm assembly as defined in claim 10 wherein the crossing arm includes a straight round rod and a flap that is stored adjacent a top surface of the bumper in a generally horizontal position and that swings down to a generally vertical position when the crossing arm is deployed.

12. (original) The crossing arm assembly as defined in claim 11 wherein the crossing arm includes an end member that is attached to an end of the rod member, the end member being straight or curved.

13. (currently amended) The crossing arm assembly as defined in claim 11 ~~or claim 12~~ wherein the flap member includes an integral tube at the rear edge that is pivotally mounted on the rod.

14. (original) The crossing arm assembly as defined in claim 13 wherein the tube is disposed in a clip holder attached to the bumper when the crossing arm assembly is in the stored position.

15. (currently amended) The combination of a bus having a front bumper and a crossing control arm assembly comprising an actuator and a crossing arm, the actuator being located behind the bumper and the crossing arm being attached to the actuator by a hinge bracket that includes upper and lower pivot members of the actuator, the crossing arm being attached to the hinge bracket so as to be stored above the bumper and ~~being including a rod that is attached to the hinge bracket and~~ moveable by the actuator in a substantially horizontal direction to a deployed position generally perpendicular to the bumper.

16. (currently amended) The combination as defined in claim 15 wherein the crossing arm further comprises ~~a rod that is attached to the hinge bracket and a~~

flap that is pivotally attached to the rod so that the flap is stored in a substantially horizontal position and deployed in a substantially vertical position.

17. (currently amended) ~~The combination as defined in claim 16~~

The combination of a bus having a front bumper and a crossing control arm assembly comprising an actuator and a crossing arm, the actuator being located in a housing behind the bumper and the crossing arm being attached to the actuator by a hinge bracket that includes upper and lower pivot members above and below the housing of the actuator respectively,

the crossing arm comprising a rod that is attached to the hinge bracket so as to be stored above the bumper and moveable by the actuator in a substantially horizontal direction to a deployed position generally perpendicular to the bumper.

the hinge bracket being U-shaped with substantially parallel, axially spaced legs attached to the upper and lower pivot members, respectively and the crossing arm being attached to a cross-over link that is attached to one of the legs in cantilever fashion and that extends over the top of the bumper, the cross over link being attached to an end of the rod of the crossing arm.

18. (original) The combination as defined in claim 17 wherein the hinge bracket includes a generally L-shaped extension that includes a rod that pivots about an axis of the actuator, and that supports the cross-over link in cantilever fashion.

19. (original) The combination as defined in claim 17 wherein the cross-over link is an integral coplanar extension of one of the spaced legs.

20. (currently amended) ~~The combination as defined in claim 18 or claim 19~~ wherein the cross-over link is at an angle with respect to the upper leg of the hinge bracket.

21. (original) The combination as defined in claim 20 wherein the crossing arm is stored behind a front surface of the bumper and moved to a deployed

position where the crossing arm extends generally perpendicular to an imaginary front plane of the bumper defined in part by the front surface of the bumper.

22. (original) The combination as defined in claim 21 wherein the crossing arm includes a straight round rod and a flap that is stored adjacent a top surface of the bumper in a generally horizontal position and that swings down to a generally vertical position when the crossing arm is deployed.

23. (original) The combination as defined in claim 22 wherein the flap includes an integral tube at the rear edge that is pivotally mounted on the rod.

24. (original) The combination as defined in claim 23 wherein the tube is disposed in a clip holder attached to the bumper when the flap is in the stored position.

25. (new) The combination as defined in claim 17 further comprising a flap that is pivotally attached to the rod so that the flap is stored in a substantially horizontal position and deployed in a substantially vertical position.

26. (new) The combination as defined in claim 19 wherein the cross-over link is at an angle with respect to the upper leg of the hinge bracket.

27. (new) The combination as defined in claim 26 wherein the crossing arm is stored behind a front surface of the bumper and moved to a deployed position where the crossing arm extends generally perpendicular to an imaginary front plane of the bumper defined in part by the front surface of the bumper.

28. (new) The combination as defined in claim 27 wherein the crossing arm includes a straight round rod and a flap that is stored adjacent a top surface of the bumper in a generally horizontal position and that swings down to a generally vertical position when the crossing arm is deployed.

29. (new) The combination as defined in claim 28 wherein the flap includes an integral tube at the rear edge that is pivotally mounted on the rod.

30. (new) The combination as defined in claim 29 wherein the tube is disposed in a clip holder attached to the bumper when the flap is in the stored position.

31. (new) A crossing control arm assembly for a bumper that is adapted for attachment behind or to a back surface of the bumper and having a crossing arm that can be stored above the bumper when the crossing control arm assembly is attached behind or to a back surface of the bumper, the crossing control arm assembly comprising:

an actuator in a housing,

a crossing arm that is attached to the actuator by an external hinge bracket that includes upper and lower pivot members that are above and below the housing of the actuator respectively and that pivot about a pivot axis of the actuator,

the hinge bracket being U-shaped with substantially parallel, axially spaced legs that are attached to the upper and lower pivot members, respectively, and that extend in a first radial direction away from the pivot axis,

a cross-over link that is attached to one of the legs of the bracket in cantilever fashion and that extends away from the pivot axis in a second radial direction, and

the crossing arm being attached to the cross-over link at a location spaced from the pivot axis and so as to orient the crossing arm tangentially with respect to the pivot axis.

32. (new) The crossing arm assembly as defined in claim 31 wherein the crossing arm comprises a rod, the cross-over link is attached to an end of the rod of the crossing arm, and the cross-over link is at an angle with respect to the one of the legs of the hinge bracket.

33. (new) The crossing arm assembly as defined in claim 32 wherein the hinge bracket includes a generally L-shaped extension that includes a rod that pivots

about the pivot axis of the actuator, and that supports the cross-over link in cantilever fashion.

34.. (new) The crossing arm assembly as defined in claim 32 wherein the cross-over link is an integral coplanar extension of the one of the legs of the hinge bracket.